In the claims:

Please rewrite claims 1-3, 5, 6, 8-12, 14, 15, 17 and 21 as follows. A marked-up version of claims 1-3, 5, 6, 8-12, 14, 15 and 17 is attached to show the amendments.

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1. (Amended) A photo and thermally labile siloxane polymer which undergoes transformation to SiO_2-rich films by the release of unsaturated hydrocarbons and protonated byproducts obtained from the hydrolysis and condensation polymerization of an organosilane containing an alkyl group substituted in the position β to silicon, the organosilane having the general formula:

SUB C1

$$(RCH_2)_nSiX_{(4-n)}$$

where n is 1 or 2;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and

R is an alkyl group having at least one but not more than two substituents in the position β to silicon that are electronegative;
and wherein said siloxane polymer contains silanol groups.

2. (Amended) The siloxane polymer of claim 1 wherein, in the general formula for the organosilane, R is a methyl group or ethyl group having at least one but not more than two substituents in the position β to silicon selected from the group consisting of bromine, fluorine, iodine, hydroxy, methoxy, ethoxy, and acetoxy.

3. (Amended)) A photo and thermally labile siloxane polymer which undergoes transformation to SiO_2-rich films by the release of unsaturated hydrocarbons and protonated byproducts, obtained from the hydrolysis and condensation polymerization of an organosilane containing a β-substituted alkyl group, the organosilane having the general formula:

SUB C2

$$R_nSiX_{(4-n)}$$

where n is 1 or 2;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and

B1

R is an alkyl group having at least one but not more than two β-substituents that are electronegative and at least one but not more than two α-substituents on the β-substituted alkyl group, the α-substituent being selected from the group consisting of chlorine, bromine, fluorine, iodine, hydroxy, methoxy, ethoxy, and acetoxy;
and wherein said siloxane contains silanol groups

5. (Amended) The siloxane polymer of claim 1 wherein, in the general formula for the organosilane, n is 1;

X is a halogen selected from the group consisting of chlorine and bromine or an alkoxy selected from the group consisting of methoxy and ethoxy substituents; and

B2

R is a methyl group having at least one but not more than two substituents selected from the group consisting of bromine, fluorine, hydroxy, methoxy, and acetoxy.

6. (Amended) A photo and thermally labile siloxane polymer which undergoes transformation to SiO_2-rich films by the release of unsaturated hydrocarbons and protonated byproducts, obtained from the hydrolysis and condensation polymerization of an organosilane containing a β-substituted alkyl group, the organosilane having the general formula:

SUB C3

$$R_nSiX_{(4-n)}$$

where n is 1;

X is a halogen selected from the group consisting of chlorine and bromine, or an alkoxy selected from the group consisting of methoxy and ethoxy substituents; and

R is an ethyl group having at least one but not more than two β-substituents selected from the group consisting of bromine, fluorine, methoxy, and acetoxy and at least one but not more than two α-substituents on the β-substituted ethyl group, the α-substituent being selected from the group consisting of chlorine, bromine, fluorine, hydroxy, methoxy, and acetoxy;

B2

and wherein said siloxane polymer contains silanol groups

8. (Amended) The siloxane polymer of claim 1 wherein the siloxane polymer is obtained from the hydrolysis and condensation polymerization of a β-substituted ethyltrichlorosilane, wherein the β-substituent is non-halogenated.

B3

9. (Amended) The siloxane polymer of claim 1 wherein the siloxane polymer contains at least about five up to about 75 silanol groups per 100 silicon atoms.

10. (Amended) The siloxane polymer of claim 1 wherein the siloxane polymer contains about 20 to about 50 silanol groups per 100 silicon atoms.

11. (Amended) The siloxane polymer of claim 1 wherein the siloxane polymer is obtained from homopolymerization of the organosilane.

12. (Amended) The siloxane polymer of claim 1 wherein the siloxane polymer is obtained from copolymerization of the organosilane with an alkoxysilane.

B4

14. (Amended) The siloxane polymer of claim 1 which further comprises a siloxane polymer obtained from copolymerization of the organosilane with a hydride-functional silane selected from the group consisting of trichlorosilane and triethoxysilane.

15. (Amended) The siloxane polymer of claim 1 which further comprises a siloxane polymer obtained from copolymerization of the organosilane with an organotrichlorosilane selected from the group consisting of ethyltrichlorosilane, methyltrichlorosilane and phenyltrichlorosilane.

B5

17. (Amended) The siloxane polymer of claim 16 wherein the siloxane polymer is extracted from the aqueous medium with an organic solvent.

B6 21. (Amended) The siloxane polymer of claim 1 wherein, in the general formula for the organosilane, R is a methyl group having at least one but not more than two acetoxy substituents.

Please add the following new claims:

22. (New) A photo and thermally labile siloxane polymer without fillers of the structure $[ClCH_2CH_2SiO(OH)]_p[ClCH_2CH_2SiO_{1.5}]_q$, in which the ratio of p:q is from 1:5 to 1:1, which undergoes transformation to SiO_2-rich films by the release of unsaturated hydrocarbons and protonated byproducts, obtained from the hydrolysis and condensation of an organosilane having the general formula:

B7 $$(ClCH_2CH_2)_nR'_mSiX_{(4-n-m)}$$

where n is 1 or 2 and m is 0 or 1;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and

R' is any substituted or unsubstituted alkyl group.

SUB C4 23. (New) A photo and thermally labile siloxane polymer which undergoes transformation to SiO_2-rich films by the release of unsaturated hydrocarbons and protonated byproducts, obtained from the hydrolysis and condensation polymerization of an organosilane containing an alkyl group substituted in the position β to silicon, the organosilane having the general formula:

$$(RCH_2)_nSiX_{(4-n)}$$

where n is 1 or 2;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and